



COCHISE COUNTY
COMMUNITY DEVELOPMENT
"Public Programs...Personal Service"

MEMORANDUM

TO: Cochise County Board of Supervisors
THROUGH: Michael Ortega, County Administrator
FROM: Beverly J. Wilson, Planning Director
SUBJECT: Docket R-14-04—Revisions to the Cochise County Light Pollution Code and to Article 19 of the Cochise County Zoning Regulations
DATE: August 25 for the September 9, 2014 Meeting

I. Background

On Wednesday, August 13, 2014, the Planning and Zoning Commission voted 7-0 unanimously to forward this Docket to the Board of Supervisors with a recommendation of approval, including the proposed definition of, and limits regarding, Correlated Color Temperature.

II. Background

A Work Session was held at the July 9, 2014 Commission meeting. After discussion amongst the Commission, Staff was directed to bring this docket to the Commission for a vote in August, and to include a definition for Color Correlated Temperature (CCT), as well as a proposal for setting a limit on the Kelvin units used to measure this temperature. The proposed outdoor lighting regulations are intended to preserve rural character as well as Cochise County's unique asset of the dark night sky. This proposed LPC will not modify the existing code's ability to control potential adverse impacts to the dark sky, such as sky-glow, glare, and light trespass. Rather, it will enhance the code by addressing emerging technology and allow regulation of LED lighting and digital signs.

Staff is proposing the addition of the following definition to Article 2 of the LPC: *Correlated Color Temperature (CCT): This temperature best indicates the colors of light shining from a bulb or lamp. CCT is listed with all new lighting sources (lamps and bulbs), and by standard, the temperature is given in degrees Kelvin. Low Kelvin numbers represent "warm light and higher numbers represent "cool light".*

Staff is recommending that a limit of 3,000 Kelvin be set for non-residential shielded and unshielded uses in the County, which will be shown in Table 4. Please note that neither change has been made to the proposed Light Pollution Code, pending the Commission's recommendation.

The Cochise County LPC has been in effect since 1982. The original LPC addressed one impact of light pollution: glare, which is reduced by proper shielding. In 2005, the LPC was replaced with the current code and addressed sky glow and light trespass as well as regulating the height of light fixtures. Nine years later, government regulations have reduced the availability of the traditional

incandescent bulbs, first invented by Thomas Edison. The Energy Independence and Security Act of 2007 set a schedule for manufacturers to stop the production and importation of incandescent light bulbs, in an effort to reduce energy use. The schedule is set as follows: in 2012, 100-watt bulbs were affected; 2013, 75-watt bulbs; and 2014, 60 and 40-watt bulbs. While incandescent light bulbs may still be manufactured, they must utilize 27-percent less energy. The cost of producing an energy efficient incandescent is much greater than the cost of new and highly energy efficient Light Emitting Diode (LED) and Compact Fluorescent Lamp (CFL) bulbs. Not only are the new bulbs energy efficient, their longevity is remarkable, lasting up to 25-times longer than the traditional incandescent. It is estimated that in the United States, incandescent supplies will be exhausted in the first half of 2014.

The intent of the federal regulation is to reduce energy cost for the public, but, as a result, a new language for describing and acquiring light bulbs becomes necessary. The traditional term ‘watt’ was used to compare the intensity of light. However, a watt actually is a measurement of electric power used, not brightness. The current term utilized to describe brightness is ‘*lumen*’, which is a measurement of the light perceived by the human eye. The lumen is a scientific measurement that tells us how much light is being emitted. It is a degree of measurement that the public needs to become familiar with to efficiently replace incandescent bulbs while still providing the brightness we are accustomed to. For example, a 60-watt incandescent bulb should be replaced with an LED bulb of 800-lumens—which will only use 13–15 watts of power.

This new technology has significantly changed the production and use of outdoor signage. Signs traditionally were lighted at night with external lights that were beamed onto a sign face. Those traditional signs were significantly altered with the advent of a sturdier translucent plastic as any light bulbs could be placed inside to create an internally lighted sign. Those signs were still limited in the amount of light produced by the size of the sign, as only so many fixtures would fit. The advent of the LED bulb has significantly changed those traditional signs by its smaller size, the ability to produce greater amounts of light, the significant decrease of energy needed to power them, and the ability to control these diodes electronically. The new technology can produce vast amounts of light with very little energy, and create brightly colored and moving images.

The proposed changes to the County’s regulations specifically address the reality of this new technology. The value of the dark night skies to Cochise County is not only reflected in the number of astronomers that are locating here, many people also cherish the dark skies as a major characteristic of and asset to the rural character of Cochise County.

III. Public Input

Staff initiated these proposed changes in 2013, by forming a working group made up of members of the community, including business owners, concerned members of the Huachuca Astronomy Club, members of the public, and staff. The pressing issue at that time was a newly installed digital sign in the Hereford area. This sign generated legitimate concern from the surrounding residents including members of the Huachuca Astronomy Club, a group with more than 60 members. All members of the working group have provided valuable technical data and interpretation to staff resulting in these proposed changes to the current LPC. However, the support for regulating digital signs from the general community was also very important, as they

represent those who choose to live in rural areas and consider our dark skies a large measure of the unique rural character of Cochise County.

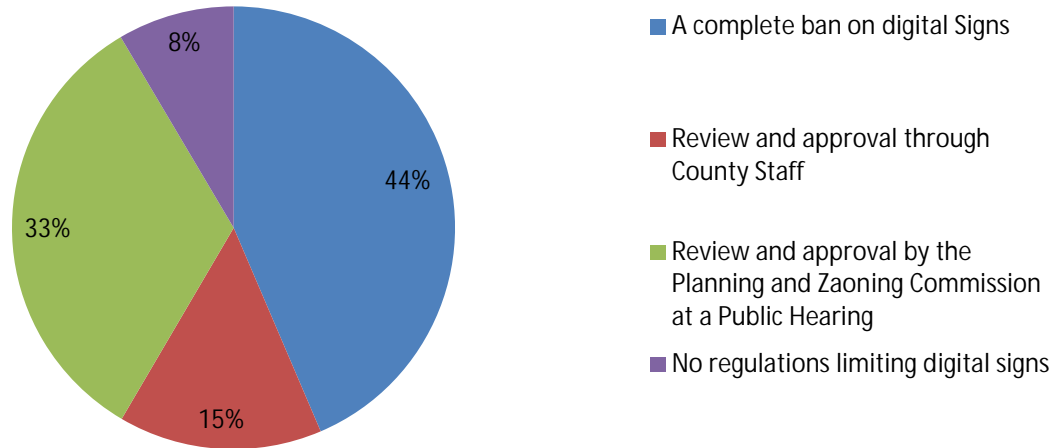
At a Public Meeting held in February, a consensus of those present conveyed that the County should consider an outright ban of these signs. A questionnaire was distributed by staff, asking for more input from the public. Of the 64 questionnaires returned to the Planning Division, 52 supported a complete ban of digital signs. Staff has carefully considered this option, and is proposing that digital signs will be permitted with certain restrictions, including a curfew on these signs from sunset to sunrise. Staff is also recommending changes to the Cochise County Zoning Regulations, Article 19, which regulates the use of signs. Section 1908.05 is being added to this Article to define Digital Signs. Section 1907.02B is also being proposed, which will define site development standards for these signs. Staff is recommending that these signs be limited to a height of five-feet above grade, that they must have a black background with red or green numbers or letters, and that any message on these signs will remain static for at least five-minutes prior to changing.

These proposed changes were presented to the Board of Supervisors during a work session on April 8, 2014. At that time, the Board recommended that the process allowing review by the Planning and Zoning Commission for digital signs be included in the LPC. The Special Use Authorization process will allow the Commission to hear public opinion on individual digital signs, if Applicants cannot meet the proposed regulations. The Board also directed staff to garner more public opinion on this issue. Staff created an on-line survey, which has resulted in the following data:

Answered: 1,380
Skipped: 35

Answer Choices—	Responses —
A complete ban on digital signs.	43.55% 601
Review and approval through County Staff.	14.86% 205
Review and approval by the Planning and Zoning Commission at a Public Hearing.	33.04% 456
No regulations limiting digital signs.	8.55% 118
Total	1,380

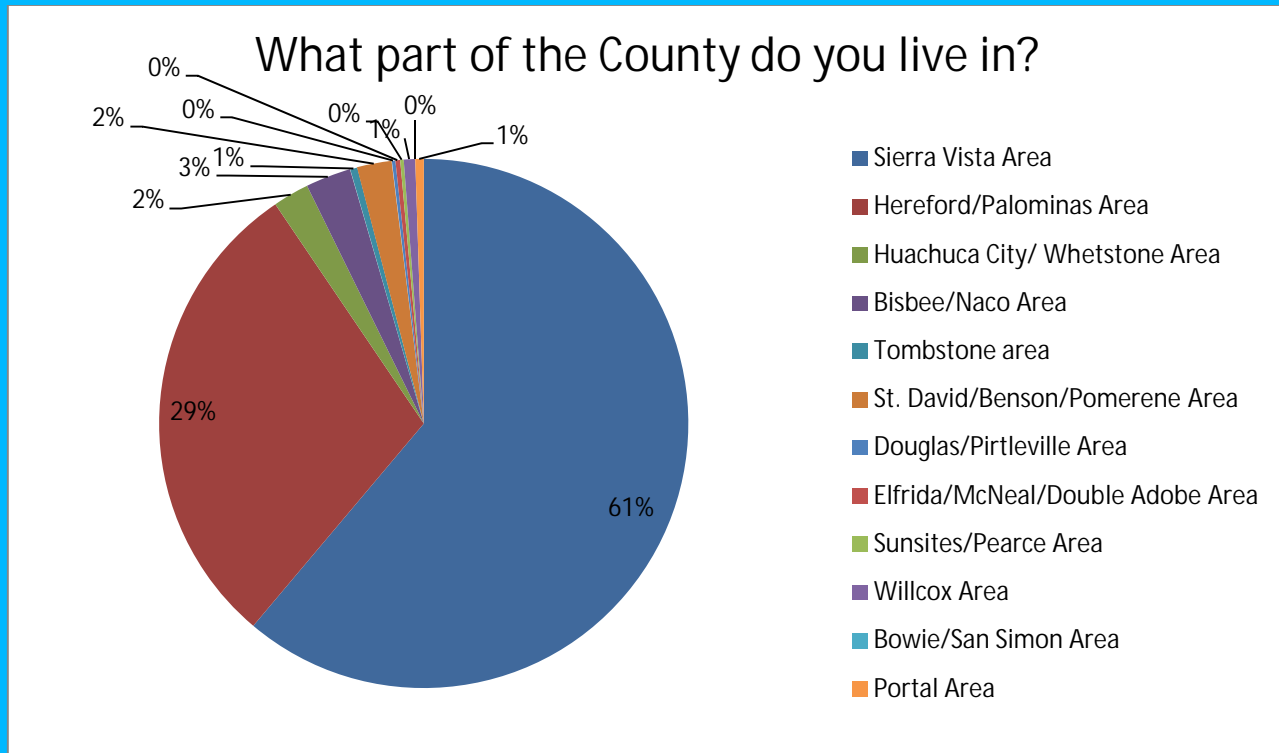
Regarding digital signs in unincorporated Cochise County, I support:



Staff set up the online survey to reflect the area of Cochise County responding to these questions, as shown below.

Answered: 1,359
Skipped: 56

Answer Choices—	Responses—
Sierra Vista Area	61.52% 836
Hereford/Palominas Area	29.58% 402
Huachuca City/Whetstone Area	2.21% 30
Bisbee/Naco Area	2.80% 38
Tombstone Area	0.44% 6
St. David/Benson/Pomerene Area	2.13% 29
Douglas/Pirtleville Area	0.22% 3
Elfrida/McNeal/Double Adobe Area	0.29% 4
Sunsites/Pearce Area	0.22% 3
Willcox Area	0.07% 1
Bowie/San Simon Area	0.00% 0
Portal Area	0.52% 7
Total	1,359



These results show that the proposed changes to the LPC and the Zoning Regulations are well supported by the Public in that over 1,400 responses were received, with slightly 10% more responses favoring an outright ban on digital signs. However, 33% of those responses received indicated that review by the Commission would be appropriate. The process of a Special Use Authorization is in the original LPC, and remains in staff's proposed update.

The primary changes to the LPC are the addition of definitions and regulations on digital signs. The consensus of the working group was that while a complete ban would be one solution, the ability for an Applicant to follow the existing Special Use Authorization process allows more flexibility for the Public.

IV. Proposed Amendments to the Light Pollution Code

The entire Light Pollution Code shall be adopted as Article 16 of the Cochise County Zoning Regulations.

Section 1: Administration

A new policy is added that reads:

- To ensure that all signs installed in the County are compatible with the County's largely rural character, are in compliance with the Comprehensive Plan, and to ensure that no sign shall be brighter than is necessary for clear and adequate visibility.*

Section 1.05 Special Use Authorization Requirements was moved from Section 4, as it is an Administrative function.

Section 2: Definitions

New definitions were added; obsolete definitions or those that were not utilized in the document were removed. There were also changes made to simplify the language, and to comply with the adopted Cochise County Zoning Regulations.

Section 3: Procedures for Lighting Compliance

A requirement was added to this section to provide accessibility for inspections.

Section 4: General Requirements

Digital signs are addressed and referenced to Section 1907.02B of the Zoning Regulations. Table 4.1 is also amended to clarify the requirements of this code including measuring digital signs with ‘nits’. Please note that all reference to general agriculture has been deleted to comply with Arizona Revised Statutes.

Section 5: Prohibitions

The added language is intended to address future and unknown technologies.

Section 6: Signage

This section is amended to clarify the definition of unshielded signs, and to address digital signs.

Section 7: Permanent Exemptions

Staff is recommending that the language referring to other emergency lighting be removed as temporary lighting in a crisis is vital to those involved and should not be under the purview of the Zoning Inspector. Again, reference to agricultural operations is clarified as exempt and the unnecessary language removed.

Section 8: Temporary Exemptions and Section 9: Special Activities

These sections were edited with minor clarifications added.

Section 10: Enforcement

The penalties for violating this Code were inserted.

V. Proposed Amendments to the Zoning Regulations

Changes to Article 19 of the Zoning Regulations all refer to digital signs, and include new language in Sections 1903.04, 1907.02, 1908.05, 1908.11, and 1908.18. The new language defines digital signs, and sets the site development standards for them including size, location, and curfew. Language is added to clarify that the Light Pollution Code will provide further provisions for their use.

Staff is recommending that digital signs be permitted with height restrictions of five-foot from grade; controlled illumination so that the only permitted night use will require a black background with red or green letters or numbers depicting fuel prices, motel prices, time and temperature signs and other similar signs provided that the brightness meets the requirements of the LPC; and language to define exactly what a digital sign is for the purpose of the Zoning Regulations.

Staff is also recommending adopting the Light Pollution Code as Article 19 of the Zoning Regulations to centralize all applicable regulations into one document.

VI. Attachments

- A. Exhibit A (Light Pollution Code – Amended)
- B. Exhibit B (Article 19 of the Zoning Regulations-Amended)